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SEQUENCE LISTING

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<120> METHOD FOR PRODUCING UNSATURATED OMEGA-3-FATTY ACIDS IN
 TRANSGENIC ORGANISMS

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<151> 2004-02-27

<160> 6

<170> PatentIn version 3.3

<210> 1

<211> 1086

<212> DNA

<213> Phytophthora infestans

<220>

<221> CDS

<222> (1)..(1086)

<223> Omega-3-desaturase

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cgg tcg cta cct aaa gac tgt ttc gag gct tcg gtg cct ctg tcg ctc	96
Arg Ser Leu Pro Lys Asp Cys Phe Glu Ala Ser Val Pro Leu Ser Leu	
20 25 30	
tac tac acc gtg cgt tgt ctg gtg atc gcg gtg gct cta acc ttc ggt	144
Tyr Tyr Thr Val Arg Cys Leu Val Ile Ala Val Ala Leu Thr Phe Gly	
35 40 45	
ctc aac tac gct cgc gct ctg ccc gag gtc gag agc ttc tgg gct ctg	192
Leu Asn Tyr Ala Arg Ala Leu Pro Glu Val Glu Ser Phe Trp Ala Leu	
50 55 60	
gac gcc gca ctc tgc acg ggc tac atc ttg ctg cag ggc atc gtg ttc	240
Asp Ala Ala Leu Cys Thr Gly Tyr Ile Leu Leu Gln Gly Ile Val Phe	
65 70 75 80	
tgg ggc ttc ttc acg gtg ggc cac gat gcc ggc cac ggc gcc ttc tcg	288
Trp Gly Phe Phe Thr Val Gly His Asp Ala Gly His Gly Ala Phe Ser	
85 90 95	
cgc tac cac ctg ctt aac ttc gtg gtg ggc act ttc atg cac tcg ctc	336
Arg Tyr His Leu Leu Asn Phe Val Val Gly Thr Phe Met His Ser Leu	
100 105 110	
atc ctc acg ccc ttc gag tcg tgg aag ctc acg cac cgt cac cac cac	384
Ile Leu Thr Pro Phe Glu Ser Trp Lys Leu Thr His Arg His His His	
115 120 125	

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Lys Asn Thr Gly Asn Ile Asp Arg Asp Glu Val Phe Tyr Pro Gln Arg
130 135 140
aag gcc gac gac cac ccg ctg tct cgc aac ctg att ctg gcg ctc ggg 480
Lys Ala Asp Asp His Pro Leu Ser Arg Asn Leu Ile Leu Ala Leu Gly
145 150 155 160
gca gcg tgg ctc gcc tat ttg gtc gag ggc ttc cct cct cgt aag gtc 528
Ala Ala Trp Leu Ala Tyr Leu Val Glu Gly Phe Pro Pro Arg Lys Val
165 170 175
aac cac ttc aac ccg ttc gag cct ctg ttc gtg cgt cag gtg tca gct 576
Asn His Phe Asn Pro Phe Glu Pro Leu Phe Val Arg Gln Val Ser Ala
180 185 190
gtg gta atc tct ctt ctc gcc cac ttc ttc gtg gcc gga ctc tcc atc 624
Val Val Ile Ser Leu Leu Ala His Phe Phe Val Ala Gly Leu Ser Ile
195 200 205
tat ctg agc ctc cag ctg ggc ctt aag acg atg gca atc tac tac tat 672
Tyr Leu Ser Leu Gln Leu Gly Leu Lys Thr Met Ala Ile Tyr Tyr Tyr
210 215 220
gga cct gtt ttt gtg ttc ggc agc atg ctg gtc att acc acc ttc cta 720
Gly Pro Val Phe Val Phe Gly Ser Met Leu Val Ile Thr Thr Phe Leu
225 230 235 240
cac cac aat gat gag gag acc cca tgg tac gcc gac tcg gag tgg acg 768
His His Asn Asp Glu Glu Thr Pro Trp Tyr Ala Asp Ser Glu Trp Thr
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tac gtc aag ggc aac ctc tcg tcc gtg gac cga tcg tac ggc gcg ctc 816
Tyr Val Lys Gly Asn Leu Ser Ser Val Asp Arg Ser Tyr Gly Ala Leu
260 265 270
att gac aac ctg agc cac aac atc ggc acg cac cag atc cac cac ctt 864
Ile Asp Asn Leu Ser His Asn Ile Gly Thr His Gln Ile His His Leu
275 280 285
ttc cct atc att ccg cac tac aaa ctc aag aaa gcc act gcg gcc ttc 912
Phe Pro Ile Ile Pro His Tyr Lys Leu Lys Lys Ala Thr Ala Ala Phe
290 295 300
cac cag gct ttc cct gag ctc gtg cgc aag agc gac gag cca att atc 960
His Gln Ala Phe Pro Glu Leu Val Arg Lys Ser Asp Glu Pro Ile Ile
305 310 315 320
aag gct ttc ttc cgg gtt gga cgt ctc tac gca aac tac ggc gtt gtg 1008
Lys Ala Phe Phe Arg Val Gly Arg Leu Tyr Ala Asn Tyr Gly Val Val
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gac cag gag gcg aag ctc ttc acg cta aag gaa gcc aag gcg gcg acc 1056
Asp Gln Glu Ala Lys Leu Phe Thr Leu Lys Glu Ala Lys Ala Ala Thr
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Leu Asn Tyr Ala Arg Ala	Leu Pro Glu Val Glu Ser Phe Trp Ala Leu	
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Asp Ala Ala Leu Cys Thr Gly Tyr Ile Leu Leu Gln Gly Ile Val Phe		
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Trp Gly Phe Phe Thr Val Gly His Asp Ala Gly His Gly Ala Phe Ser		
85	90	95
Arg Tyr His Leu Leu Asn Phe Val Val Gly Thr Phe Met His Ser Leu		
100	105	110
Ile Leu Thr Pro Phe Glu Ser Trp Lys Leu Thr His Arg His His His		
115	120	125
Lys Asn Thr Gly Asn Ile Asp Arg Asp Glu Val Phe Tyr Pro Gln Arg		
130	135	140
Lys Ala Asp Asp His Pro Leu Ser Arg Asn Leu Ile Leu Ala Leu Gly		
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Ala Ala Trp Leu Ala Tyr Leu Val Glu Gly Phe Pro Pro Arg Lys Val		
165	170	175
Asn His Phe Asn Pro Phe Glu Pro Leu Phe Val Arg Gln Val Ser Ala		
180	185	190
Val Val Ile Ser Leu Leu Ala His Phe Phe Val Ala Gly Leu Ser Ile		
195	200	205
Tyr Leu Ser Leu Gln Leu Gly Leu Lys Thr Met Ala Ile Tyr Tyr Tyr		
210	215	220
Gly Pro Val Phe Val Phe Gly Ser Met Leu Val Ile Thr Thr Phe Leu		
225	230	235
His His Asn Asp Glu Glu Thr Pro Trp Tyr Ala Asp Ser Glu Trp Thr		
245	250	255
Tyr Val Lys Gly Asn Leu Ser Ser Val Asp Arg Ser Tyr Gly Ala Leu		
260	265	270
Ile Asp Asn Leu Ser His Asn Ile Gly Thr His Gln Ile His His Leu		
275	280	285
Phe Pro Ile Ile Pro His Tyr Lys Leu Lys Lys Ala Thr Ala Ala Phe		
290	295	300
His Gln Ala Phe Pro Glu Leu Val Arg Lys Ser Asp Glu Pro Ile Ile		
305	310	315
Lys Ala Phe Phe Arg Val Gly Arg Leu Tyr Ala Asn Tyr Gly Val Val		
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Asp Gln Glu Ala Lys Leu Phe Thr Leu Lys Glu Ala Lys Ala Ala Thr		
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Glu Ala Ala Ala Lys Thr Lys Ser Thr		
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